

TEAC

SERVICE MANUAL

EX-M3/MC-D3

CD Receiver System



NOTES

- PC board shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. they must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.
[US]: U.S.A (EX-M3) [E]: EUROPE (MC-D3)
[UK]: U.K. (MC-D3)

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EX-M3/MC-D3

1 SAFETY INFORMATION

SAFETY INFORMATION

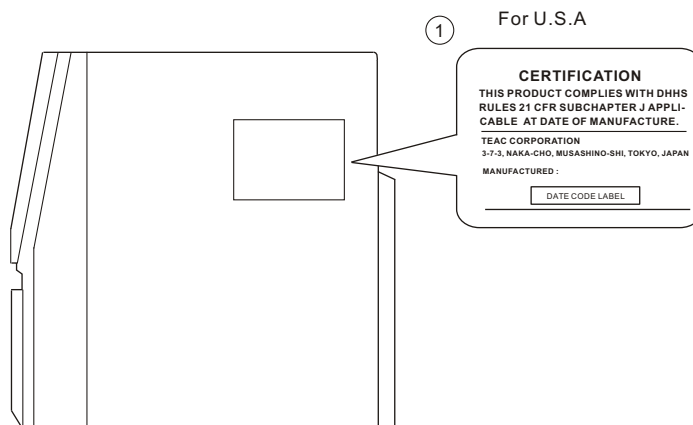
This product has been designed and manufactured according to FDA regulations "title 21, CFR, chapter 1, subchapter J, based on the Radiation Control for Health and Safety Act of 1968" and is classified as class 1 laser product. There is not hazardous invisible laser radiation during operation because invisible laser radiation emitted inside of this product is completely confined in the protective housings. The label required in this regulation is shown ①.

• CAUTION

USE OF CONTROLS OR ADJUSTMENT OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT REMOVE THE PROTECTIVE HOUSING USING SCREWDRIVER.

IF THIS PRODUCT DEVELOPS TROUBLE, MAKE A CONTACT WITH OUR SERVICEMAN, AND DO NOT USE THE PRODUCT A TROUBLED STATE.



Optical pickup:	Type :	SF-P200Z
	Manufacturer :	SANYO Electric Co., Ltd.
	Laser output :	Less than 0.5 mW on the objective lens
	Wavelength :	765 - 815 nm

2 SPECIFICATIONS

CD PLAYER Section

Pickup:	3-beam pick-up
Wavelength :	790 nm
Audio frequency response :	20 Hz ~ 22 kHz

CASSETTE DECK Section

Track System:	4 track, 2 channel stereo
Tape Speed:	4.76 cm/sec
Wow and Flutter:	0.4% or less

TUNER Section

System :	PLL quartz-locked digital synthesizer system
Tuning range :	FM : 87.50 ~ 108.0 MHz (100kHz step) - USA FM : 87.50 ~ 108.0 MHz (50kHz step) -EUR AM : 530 to 1710 kHz (10 kHz step) - USA AM : 522 to 1620 kHz (9 kHz step) - EUR
Antenna :	FM pigtail antenna AM bar antenna (built-in)

SPEAKER SYSTEM Section

System:	2-way shielded box
Impedance:	4 ohm
Dimension (W x H x D):	(5-3/4 x 9-3/16 x 7-7/8) inches 146 x 233 x 200 mm
Weight:	4-3/16 lb (1.9 kg) x2

GENERAL

Output power:	15W x 2 (USA) 12.5W x 2 (EUR/UK)
Power requirements:	120V AC, 60Hz / 230V AC, 50Hz
Power consumption:	65W
Dimension (W x H x D):	(5-7/8 x 9-3/16 x 8-3/4) inches 150 x 233 x 223 mm
Weight:	6-13/16 lb (3.1 kg)

Standard Accessories:	Remote Control Unit (RC-909) x 1 Owner's Manual x 1 Warranty Card x 1
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- Design and specifications are subject to change without notice.
- Photos and illustrations may differ slightly from production models.

EX-M3/MC-D3

3 ADJUSTMENTS AND CHECKS

3-1 TUNER SECTION

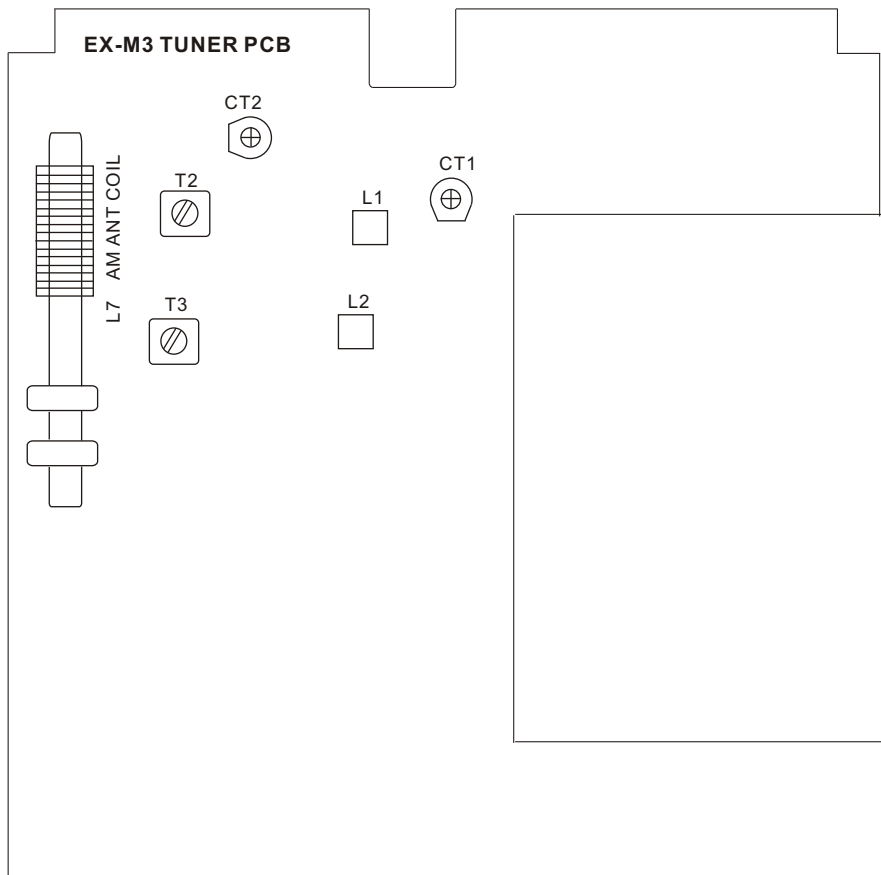
- Use a screwdriver with a plastic or ceramic grip for all adjustment.

3-1-1 FM adjustment

1. Set the function switch to the FM position.
2. Connect the signal generator output through a 75 ohm dummy antenna to "ANT" on MAIN PCB.
3. Connect the oscilloscope to the speaker terminal.
4. Set the signal generator as listed in the alignment chart.

3-1-2 AM adjustment

1. Set the function switch to the AM position.
2. Connect the test loop antenna across the output of the signal generator.
3. Connect the oscilloscope to the speaker terminal.
4. Set the signal generator as listed in the alignment chart.

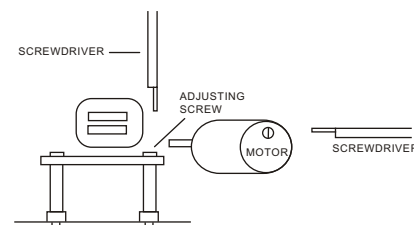


3-1-3 FM/AM alignment chart

ITEM	SG SETTING	TUNER SETTING	ADJUSTMENT POINT	ADJUSTMENT
FM				
1. FM band	87.5MHz 1kHz, +/-22.5kHz dev.	87.5MHz	L2	Adjust for max.output.
2. Tracking	90MHz 1kHz, +/-22.5kHz dev.	90MHz	L1	Adjust for max. output and best waveform.
	106MHz 1kHz, +/-22.5kHz dev.	106MHz	CT1	
	Repeat step 2			
AM				
1. IF adjustment	450kHz 1kHz, 30% mod	600kHz (USA) 603kHz (EUR/UK)	T3	Adjust for max.output.
2. AM band	530kHz (USA) 522kHz (EUR/UK) 1kHz, 30% mod	530kHz (USA) 522kHz (EUR/UK)	T2	Adjust for max. output.
3. Tracking	600kHz (USA) 603kHz (EUR/UK) 1kHz, 30% mod	600kHz	L7 AM ANT COIL	Adjust for max. output and best waveform.
	1400kHz (USA) 1404kHz (EUR/UK) 1kHz, 30% mod	1400kHz	CT2	
	Repeat step 3			

3-2 CASSETTE SECTION

1. Set the FUNCTION SELECTOR SWITCH TO TAPE.
2. Connect a Scope & VTVM across the speaker output.
3. Insert the 8KHz tape in to cassette deck and push play BUTTON.
4. ADJUST HEAD for speaker maximum output.



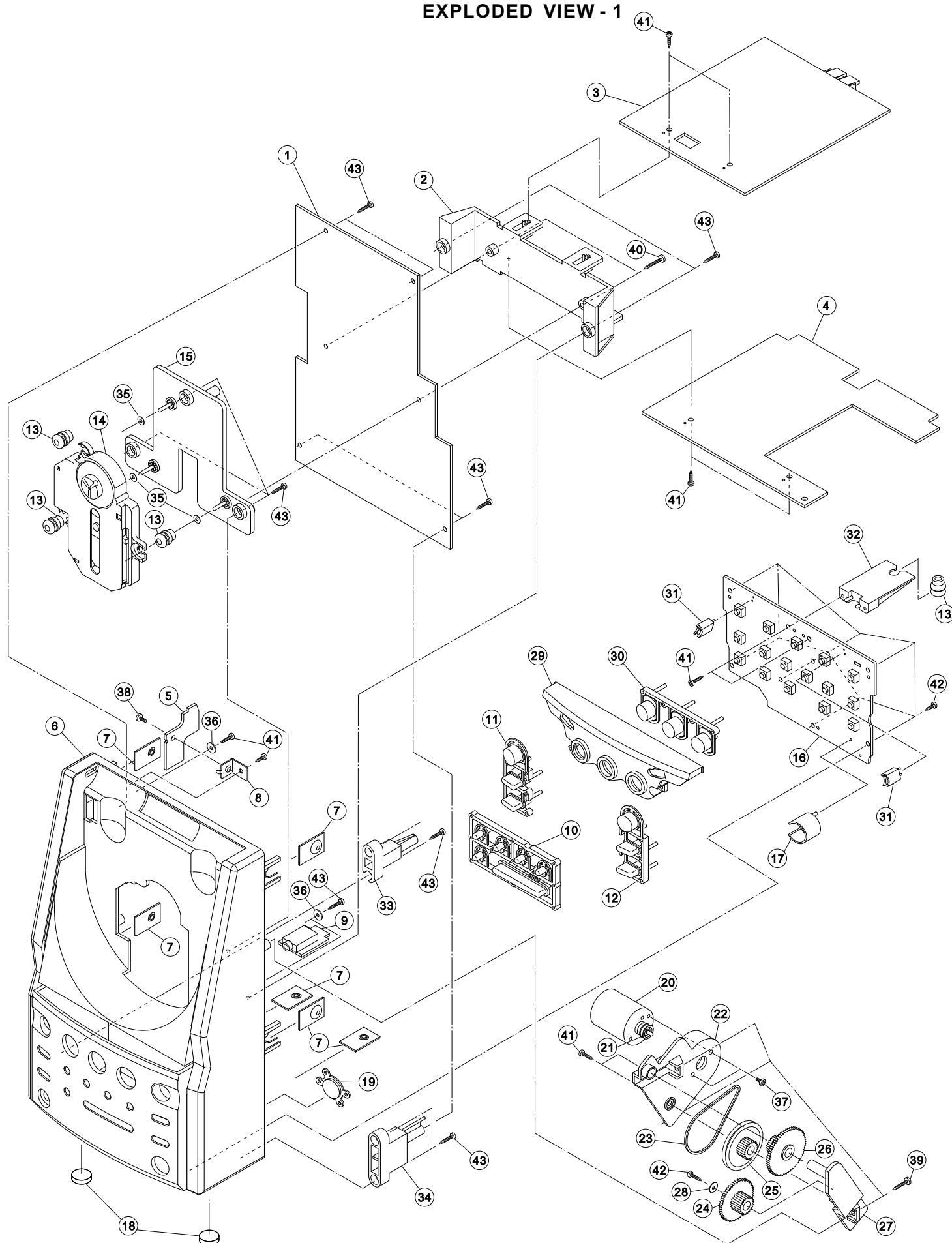
3-3 CD SECTION

Auto alignment.

EX-M3/MC-D3

4 EXPLODED VIEWS AND PARTS LIST

EXPLODED VIEW - 1

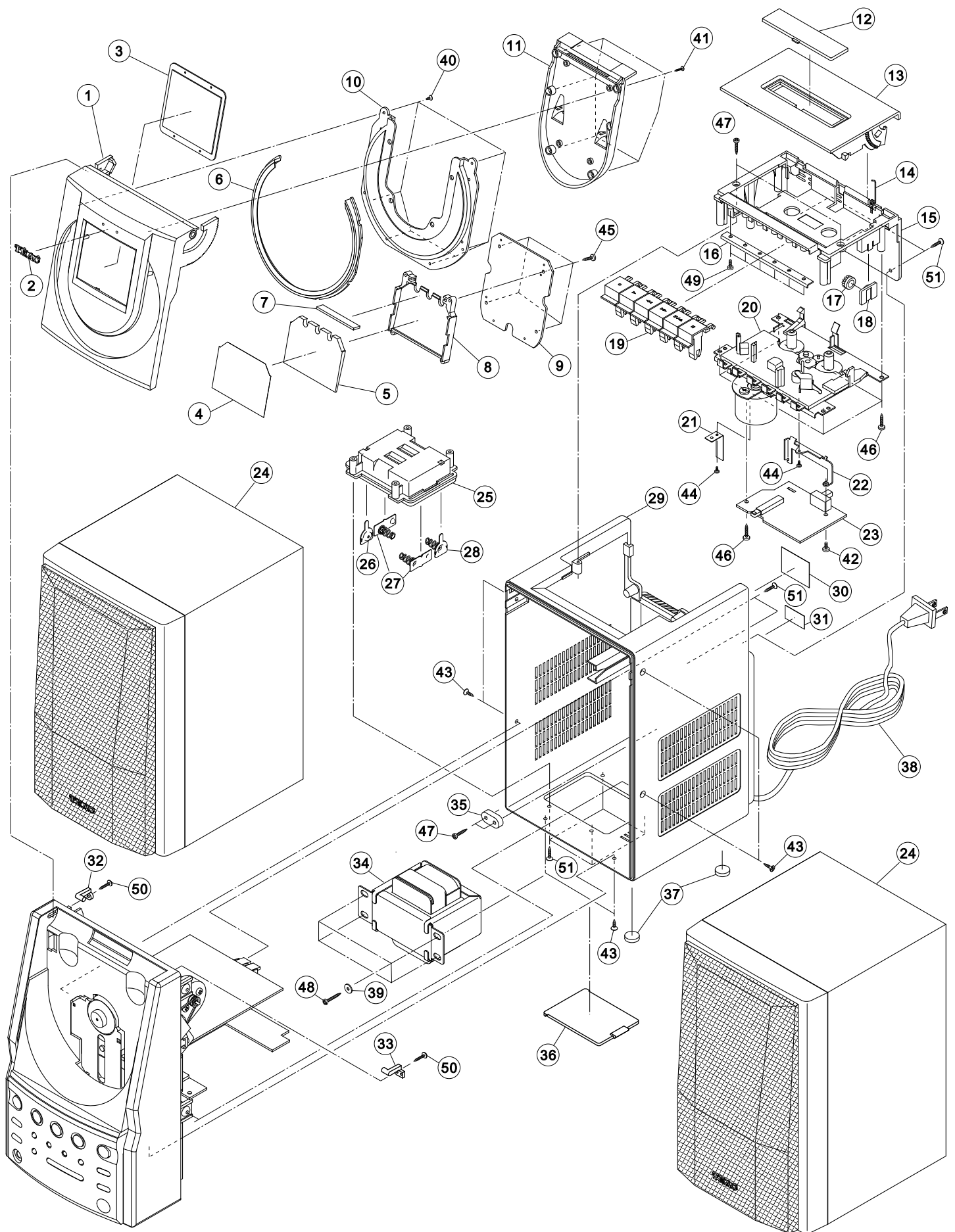


EXPLODED VIEW-1

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
1-1	05-30EX0M300000	CD PCB ASSY - UL [US]	
	05-30EX0M300010	CD PCB ASSY - CE [E] [UK]	
1-2	56-07EX0M17B000	PCB BRACKET	
1-3	05-07EX0M300000	POWER PCB ASSY	
1-4	05-02EX0M300000	TUNER PCB ASSY	
1-5	05-23EX0M100000	O/C SWITCH PCB ASSY	
1-6	56-04EX0M30A010	FRONT CABINET [US]	
	56-04EX0M31A010	FRONT CABINET [E] [UK]	
1-7	61-61D2000000020	LOCK WASHER	
1-8	61-11DV600000020	PCB BRACKET	
1-9	05-09EX0M100000	H/P PCB ASSY	
1-10	56-54EX0M33G000	VOLUME KNOB	
1-11	56-54EX0M30A010	POWER KNOB	
1-12	56-54EX0M31A010	OPEN DOOR KNOB	
1-13	58-61EX0M108120	SHOCK ABSORBER	
1-14	20-70DA23000200	CD MECHANISM	
1-15	56-07EX0M12B000	CD DECK BRACKET	
1-16	05-05EX0M300000	KEY PCB ASSY	
1-17	56-07EX0M34B000	SENSOR BRACKET	
1-18	58-263122300020	RUBBER FOOT	
1-19	56-57EX0M102000	REMOTE LENS	
1-20	58-44X200000020	CD MOTOR	
1-21	56-760000000200	DOOR MOTOR PULLY	
1-22	56-24EX0M13B000	GEAR BRACKET-A	
1-23	58-43X200000120	DRIVE BELT	
1-24	56-24EX0M11B000	GEAR -B	
1-25	56-24EX0M12B000	GEAR -C	
1-26	56-24EX0M10B000	GEAR -A	
1-27	56-24EX0M14B000	GEAR BRACKET-B	
1-28	68-112303100500	METAL WASHER 3x10X0.5	
1-29	56-07EX0M360010	LIGHT BAR	
1-30	56-54EX0M32A010	CD KNOB	
1-31	56-07EX0M389000	LIGHT BRACKET	
1-32	56-07EX0M339000	PCB BRACKET (C)	
1-33	56-07EX0M329000	PCB BRACKET (B)	
1-34	56-07EX0M319000	PCB BRACKET (A)	
1-35	68-122301800400	FIBRE WASHER 3x8x0.4	
1-36	66-112323101000	METAL WASHER 3.2x10x1	
1-37	66-120230140321	MACHINE SCREW MS/BH3x4	
1-38	66-120530160321	MACHINE SCREW MS/KH3x6	
1-39	66-140230214321	SELF-TAPPING SCREW TA/BH3x14	
1-40	66-140330216321	SELF-TAPPING SCREW TA/PH3x16	
1-41	66-140330210321	SELF-TAPPING SCREW TA/PH3x10	
1-42	66-140330180321	SELF-TAPPING SCREW TA/PH3x8	
1-43	66-140330212321	SELF-TAPPING SCREW TA/PH3x12	

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EXPLODED VIEW - 2



EXPLODED VIEW-2

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
2-1	56-14EX0M30A000	CD DOOR	
2-2	56-58EX0M118000	BADGE LOGO - TEAC	
2-3	56-57EX0M320010	DISPLAY LENS	
2-4	57-26EX0M300020	FILTER SHEET	
2-5	56-57EX0M300000	BACK LIGHT LENS	
2-6	56-07EX0M35G000	CD DOOR PLATE (CHROME)	
2-7	05-16EX0M300000	LED PCB ASSY	
2-8	56-07EX0M309000	BACK LIGHT LENS BRACKET	
2-9	05-04EX0M300000	DISPLAY PCB ASSY	
2-10	56-57EX0M331000	CD LENS	
2-11	56-07EX0M37A000	CD DOOR PLATE	
2-12	56-57EX0M310010	CASS DOOR LENS	
2-13	56-13EX0M10A010	CASS DOOR	
2-14	61-97EX0M100020	CASS DOOR SPRING	
2-15	56-07EX0M16A010	CASS DOOR BRACKET	
2-16	61-11EX0M110020	MTG-BRACKET CASS KNOB	
2-17	56-24EX0M158000	CASS GEAR	
2-18	56-24EX0M168000	CASS GEAR BRACKET	
2-19	56-55EX0M10A000	CASS KNOB	
2-20	20-06EX0M100020	F/CASS DECK	
2-21	61-76SCD6600020	RECORDING PLATE	
2-22	61-11EX0M100020	REC.PCB BRACKET	
2-23	05-20EX0M300000	R/P PCB ASSY	
2-24	58-73EX0M100020	WOODEN SPEAKER BOX ASSY	
2-25	56-06EX0M11A000	BATTERY BOX	
2-26	61-256600000020	BATTERY CONTACT PLATE (+)	
2-27	61-26SX88000020	BATTERY SPRING (+/-)	
2-28	61-266600000020	BATTERY CONTACT SPRING (-)	
2-29	56-05EX0M30A010	REAR CABINET [US]	
	56-05EX0M31A010	REAR CABINET [E] [UK]	
2-30	57-082322250020	PVC PLATE - 32x25x0.5	
2-31	57-082222130120	PVC PLATE - 22x13x0.3	
2-32	56-07EX0M138000	CD DOOR SHAFT BRACKET-L	
2-33	56-07EX0M148000	CD DOOR SHAFT BRACKET-R	
2-34	 18-203EX0M30120	TRANSFORMER 120V [US]	
	 18-205A20000121	TRANSFORMER 230V [E] [UK]	
2-35	56-69EX0M108000	AC CORD PLATE	
2-36	56-06EX0M10A000	BATTERY DOOR	
2-37	58-263122300020	RUBBER FOOT	
2-38	 45-114180310006	AC CORD CUL 6FT (M.T) [US]	
	 45-114200500008	AC CORD VDE APP 2M (BESFIELD) [UK]	
	 45-114200500005	AC CORD VDE APP 2M (S.F) [E]	
2-39	66-112323101000	METAL WASHER - 3.2x10x1	
2-40	66-150520140321	SELF-TAPPING SCREW TB/KH2x4	
2-41	66-140320180321	SELF-TAPPING SCREW TA/PH2x8	
2-42	66-120330160321	MACHINE SCREW MS/PH3x6	
2-43	66-120530180321	MACHINE SCREW MS/KH3x8	
2-44	66-170220130321	SELF-TAPPING SCREW TT/BH2x3	
2-45	66-140326160321	SELF-TAPPING SCREW TA/PH2.6x6	
2-46	66-140230212321	SELF-TAPPING SCREW TA/BH3x12	
2-47	66-140330212321	SELF-TAPPING SCREW TA/PH3x12	
2-48	66-140230218321	SELF-TAPPING SCREW TA/BH3x18	
2-49	66-150330160321	SELF-TAPPING SCREW TB/PH3x6	
2-50	66-140826212321	SELF-TAPPING SCREW TA/WH2.6x12	
2-51	66-140530212321	SELF-TAPPING SCREW TA/KH3x12	

EX-M3/MC-D3

5 PC BOARDS AND PARTS LIST

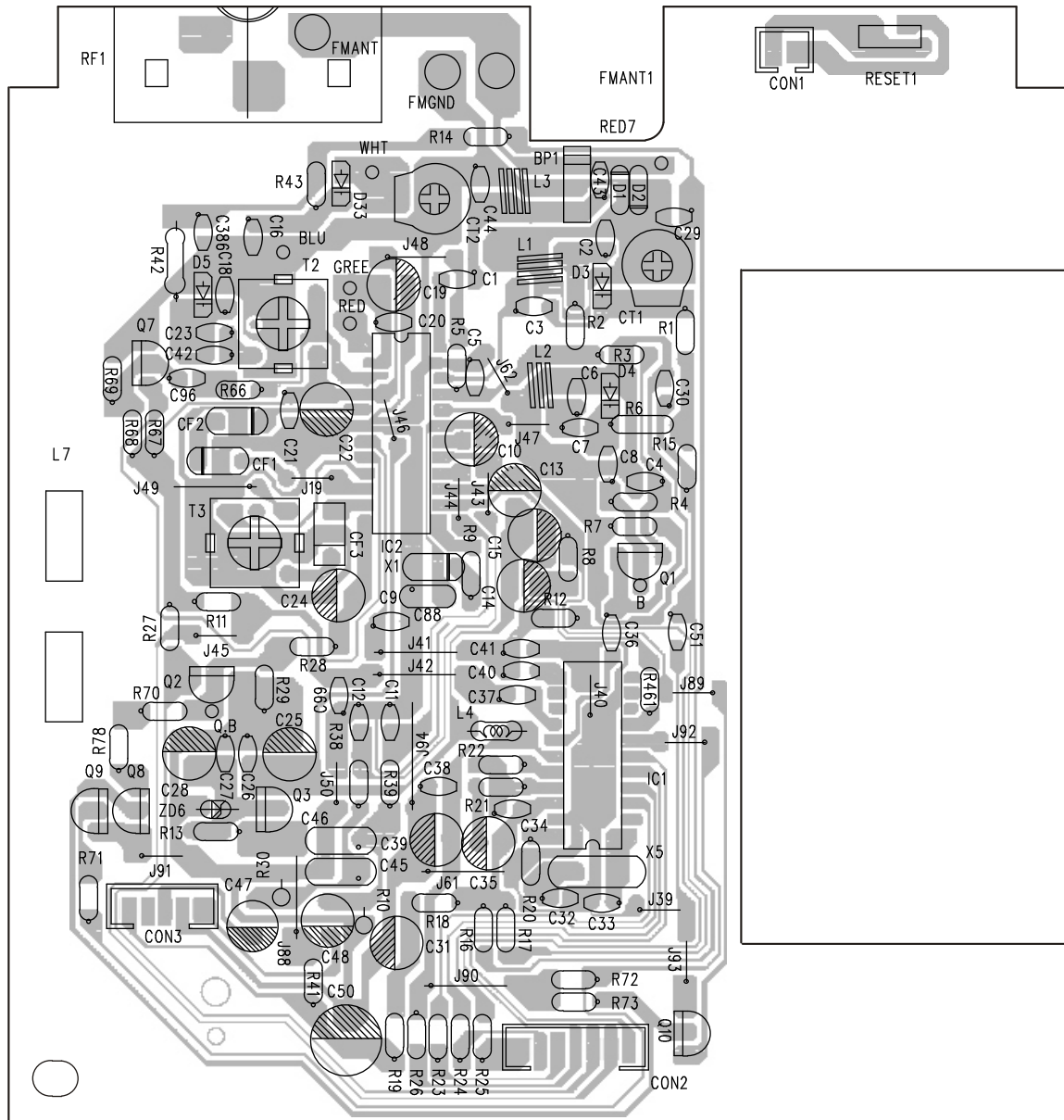
TUNER PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
CON2 CF1	05-02EX0M300000	TUNER PCB ASSY	
	48-02EX0M100220	TUNER PCB	
	32-022102800020	FERRITE BAR 10X80MM	
	43-012200170120	WAFER 7 PINS 180C	
	31-028107000110	CER.FILTER SFE10.7AM	
CF3	31-026450010110	CER.FILTER SFU450B	
CT1	27-501802101020	TRIMMER 10PF	
CT2	27-501802201020	TRIMMER 20PF	
D1,2	12-1N4148000021	DIODE - 1N4148	
D3,4	12-SVC201SPA021	VAR DIODE SVC201SPA	
D5,33	12-SVC321SPA021	VAR DIODE SVC321SPA	
IC1	16-LC7213100021	IC-LC72131	
IC2	16-LA1823000021	IC-LA1823	
L1	40-351450145020	FM COIL 4.5X4.5TX0.8MM	
L2,3	40-351450135020	FM COIL 4.5X3.5TX0.8MM	
L7	40-212680220520	AM COIL 68:20T	
Q2,8,9,10	11-9014C0000021	TR-9014C	
Q3	11-8050C0000021	TR-8050C	
T2	40-01660R002020	IFT 660R (RED)	
T3	40-01A049004020	IFT A049 (YELLOW)	
X1	31-038107000110	CDA 10.7MG1-A	
X5	31-017450002010	CRYSTAL 4.500MHZ	
ZD6	12-011680320121	ZENER DIODE 6.8V	

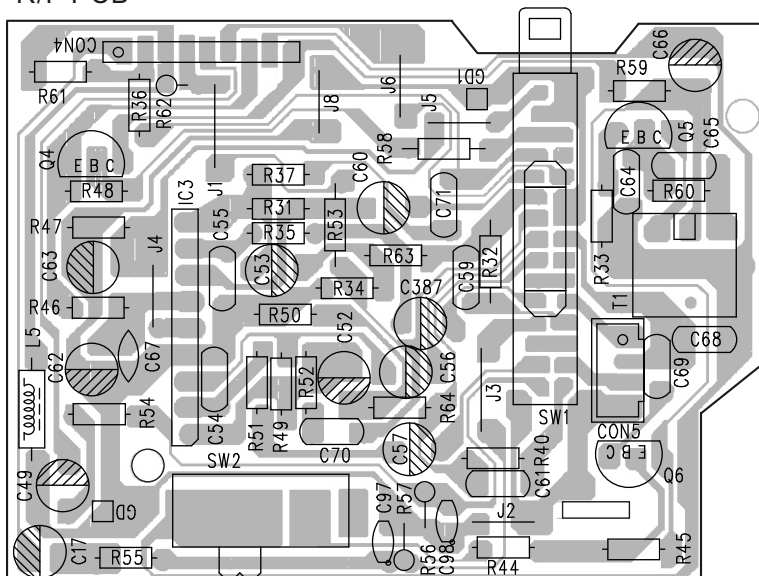
R/P PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
CON5 IC3 Q4,6	05-20EX0M300000	R/P PCB ASSY	
	48-20EX0M100220	RECORDER PCB	
	43-012200140120	WAFER 4P P=2MM	
	16-BA3308000012	IC-BA3308	
Q5	11-9015C0000021	TR-9015C	
Q5	11-9014C0000021	TR-9014C	
T1	40-016210000020	IFT- 621 (BLK)	
SW1	41-091020000020	PUSH SWITCH	
SW2	41-132203000920	SLIDE SWITCH	

TUNER PCB



R/P PCB



EX-M3/MC-D3

CD PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
CN5 CON305	05-30EX0M300000	CD PCB ASSY -UL [US]	
	05-30EX0M300010	CD PCB ASSY -CE [E] [UK]	
	48-30EX0M100222	CD PCB	
	43-012150160320	WAFER 6PIN P=1.5MM	
	43-022200150120	WAFER 5PIN P=2MM	
CON410	43-022100216120	WAFER 16P P=1MM	
CON413	43-012100230120	WAFER 30P P=1MM	
D403,404,407, D408,409,411, D412,413,415-418 D420-423	12-1N4148000021	DIODE 1N4148	
IC301	16-LB1641000021	IC- LB1641	
IC302	16-LA6541D00021	IC-LA6541D	
IC303	16-LC78622N0021	IC- LC78622NE	
IC304	16-LA9241M00021	IC- LA9241M	
IC401	16-LC58P7000021	IC- LC58P7008-1P09	
L301,302	38-014100050020	INDUCTORS 100UH	
Q301,302,403, Q404,410,411	11-9015C0000021	TR-9015C	
Q307-310	11-2SD1936T0021	TR-2SD1936T	
Q311	11-2SA134600021	TR-2SA1346	
Q401,402,405, Q406,407,412	11-9014C0000021	TR-9014C	
X301	31-048169300120	RESONATOR - ZTT16.93MX	
X401	31-017400002010	CRYSTAL 4.0MHz	
X402	31-015320003310	CRYSTAL 32.768KHz	
ZD301	12-011510320121	ZENER DIODE 5.1V	
ZD401	12-011560320121	ZENER DIODE 5.6V	

O/C SWITCH PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
SW1,2	05-23EX0M100000	O/C SWITCH PCB ASSY	
	48-23EX0M100220	CD O/C SWITCH PCB	
	41-071100020020	MICRO SWITCH - 1120B	

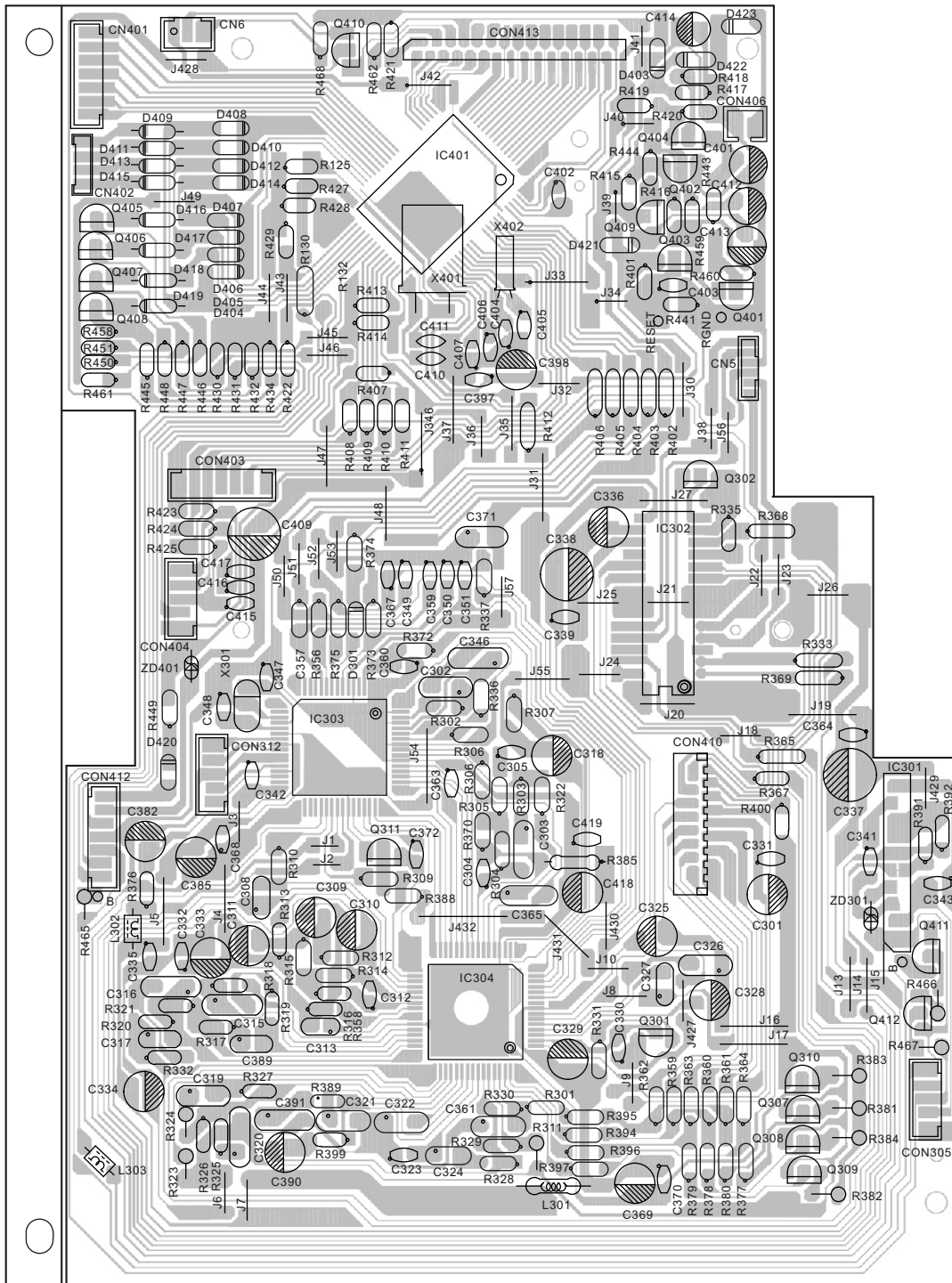
H.P PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
PH1	05-09EX0M100000	H.P PCB ASSY	
	48-09EX0M100220	H.P PCB	
	43-431355001020	PHONE JACK /SW D3.55MM	

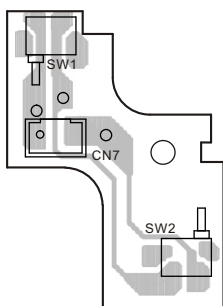
LED PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
D3,4,5	05-16EX0M300000	LED PCB ASSY	
	48-16EX0M200220	LED PCB	
	13-011196021020	LED 1.9x3.15MM - BLUE	

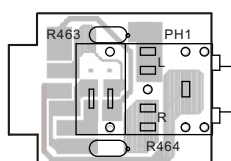
CD PCB



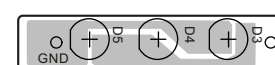
O/C SWITCH PCB



H/P PCB



LED PCB



EX-M3/MC-D3

POWER PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-07EX0M300000	POWER PCB ASSY	
	48-07EX0M300120	POWER PCB	
C757	△ 26-017680850121	CE-25V 6800UF	
C769	△ 26-017100650121	CE-10V 1000UF	
C808	△ 26-017100850121	CE-25V 1000UF	
CON701	43-012200170120	WAFER 7PIN P=2MM	
CON702,704	43-012200150120	WAFER 5PIN P=2MM	
CON703	43-012200190120	WAFER 9PIN P=2MM	
CON705	43-012200130120	WAFER 3PIN P=2MM	
CON706	43-012200120120	WAFER 2PIN P=2MM	
CON707	43-012250140120	WAFER 4PIN P=2.5MM	
CON708	43-012250150120	WAFER 5PIN P=2.5MM	
D700	12-1N5822000021	DIODE - 1N5822	
D707-710	△ 12-1N5401000021	DIODE 1N5401	
D711	12-1N4001000021	DIODE 1N4001	
D714-717	12-1N4148000021	DIODE 1N4148	
FUSE	△ 46-055630300010	GLASS FUSE 6.3A 250V	
IC703	16-LC7534200021	IC - LC75342	
IC704	16-LA4725000021	IC - LA4725	
IC705	16-MC34063A0021	IC - MC34063A	
JK2	43-441400012020	SPEAKER JACK	
L5	38-104230050020	CHOKE COIL 230UH	
L6	38-103200050020	CHOKE COIL 20UH	
Q713	11-KSD882Y00021	TR-KSD882Y	
Q715-717,721, Q725-728,730,801	11-9014C0000021	TR-9014C	
Q718	11-8050C0000021	TR-8050C	
Q723,729	11-KSB772YS0021	TR-KSB772YS	
Q724	11-8550C0000021	TR-8550C	
ZD703	12-011820320121	ZENER DIODE 8.2V	
ZD704	12-012100320121	ZENER DIODE 10V	
ZD705	12-011620320121	ZENER DIODE 6.2V	
ZD801	12-011680320121	ZENER DIODE 6.8V	

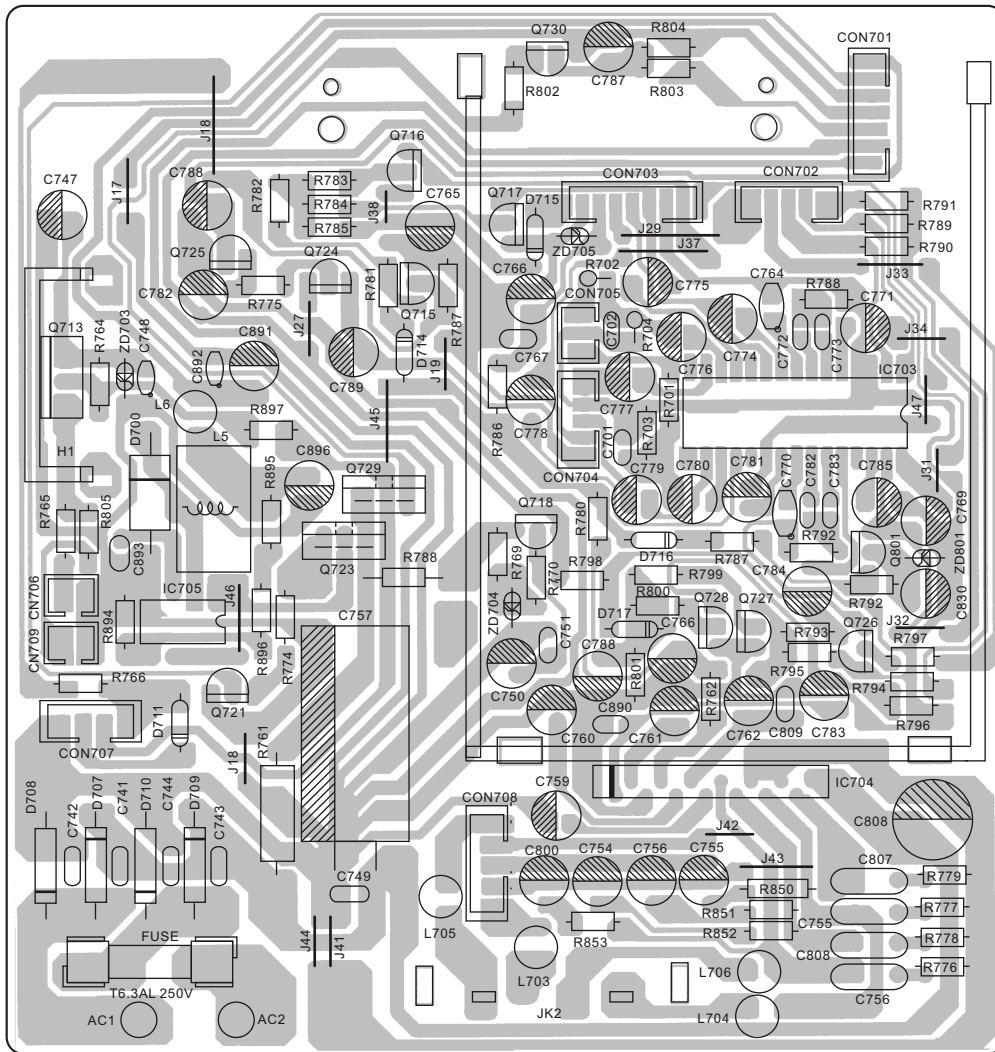
DISPLAY PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-04EX0M300000	DISPLAY PCB ASSY	
	48-04EX0M300220	DISPLAY PCB	
D1,D2	13-011506122020	LED 5MM(BLUE)	
LCD401	13-5EX0M100010	LCD DISPLAY IS06382P00	

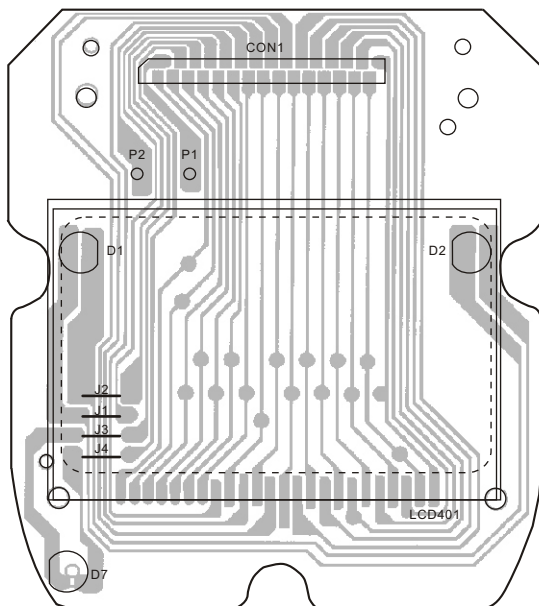
KEY PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-05EX0M300000	KEY PCB ASSY	
	48-05EX0M300220	KEY PCB	
	41-150010030020	TACT SWITCH H=5MM 4LEGS	
	41-150020000020	TACT SWITCH H=5MM 5LEGS	
CON501	43-022200170120	WAFER 7PIN P=2MM	
CON502	43-022200140120	WAFER 4PIN P=2MM	
CON503	43-022200130120	WAFER 3PIN P=2MM	
IR1	17-05FM60380010	OPTIC SENSER	
LED1,2	13-011506122020	LED 5MM - BLUE	

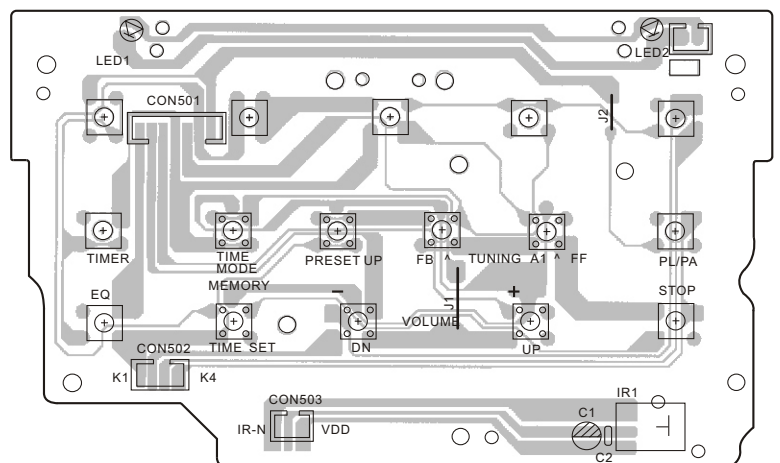
POWER PCB



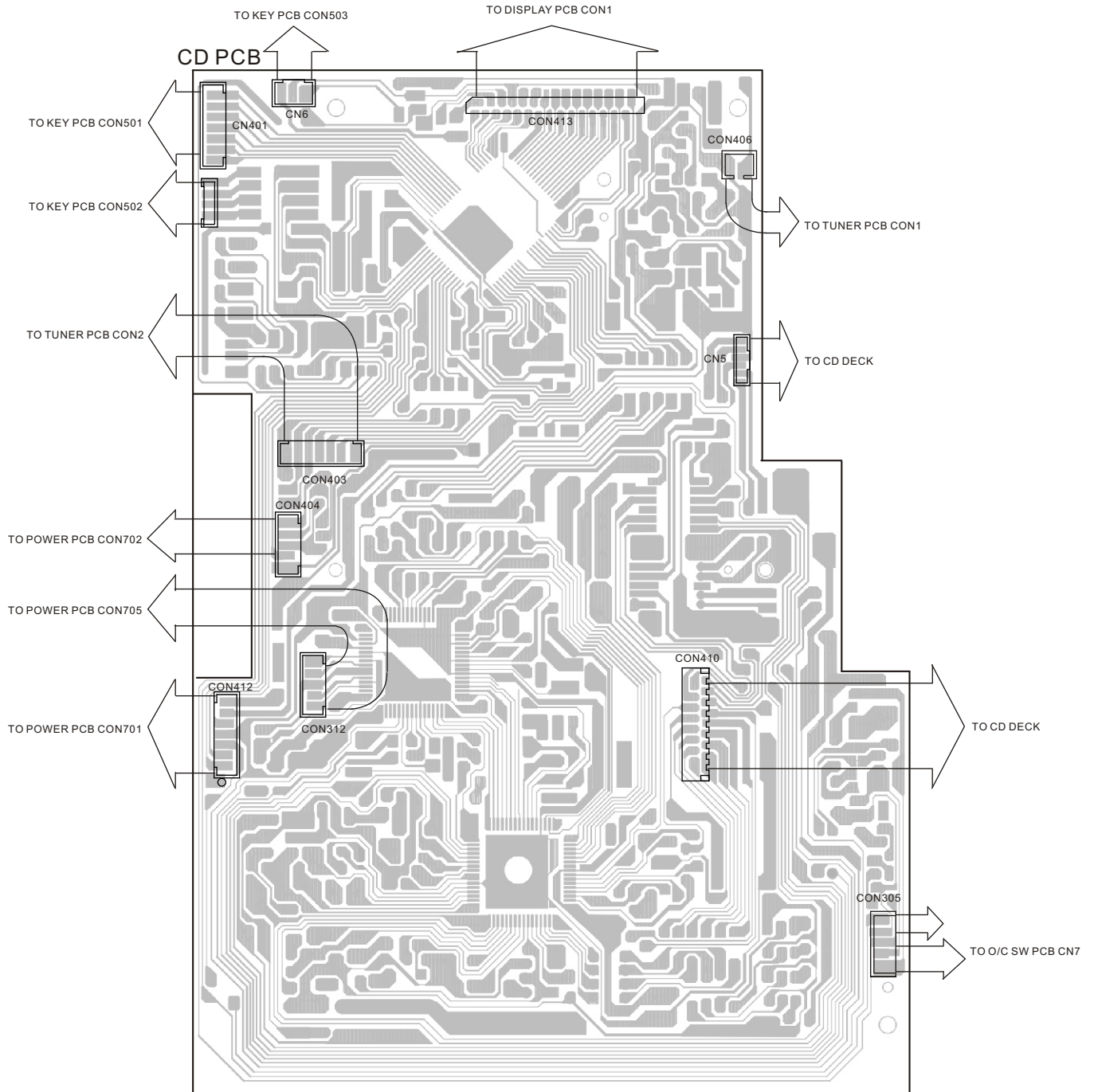
DISPLAY PCB

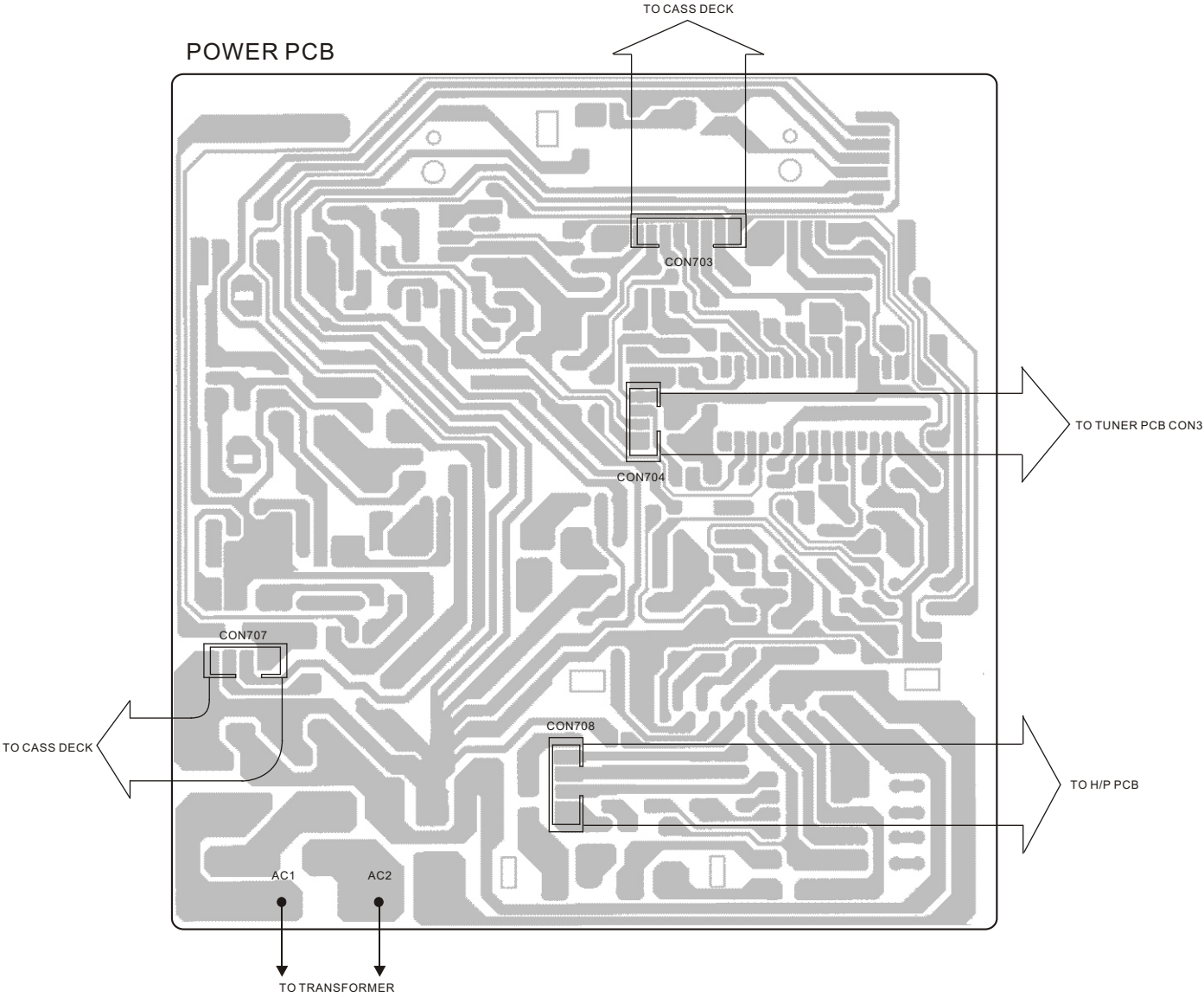


KEY PCB



6 WIRING DIAGRAM





EX-M3/MC-D3

6 INCLUDED ACCESSORIES

INCLUDED ACCESSORIES

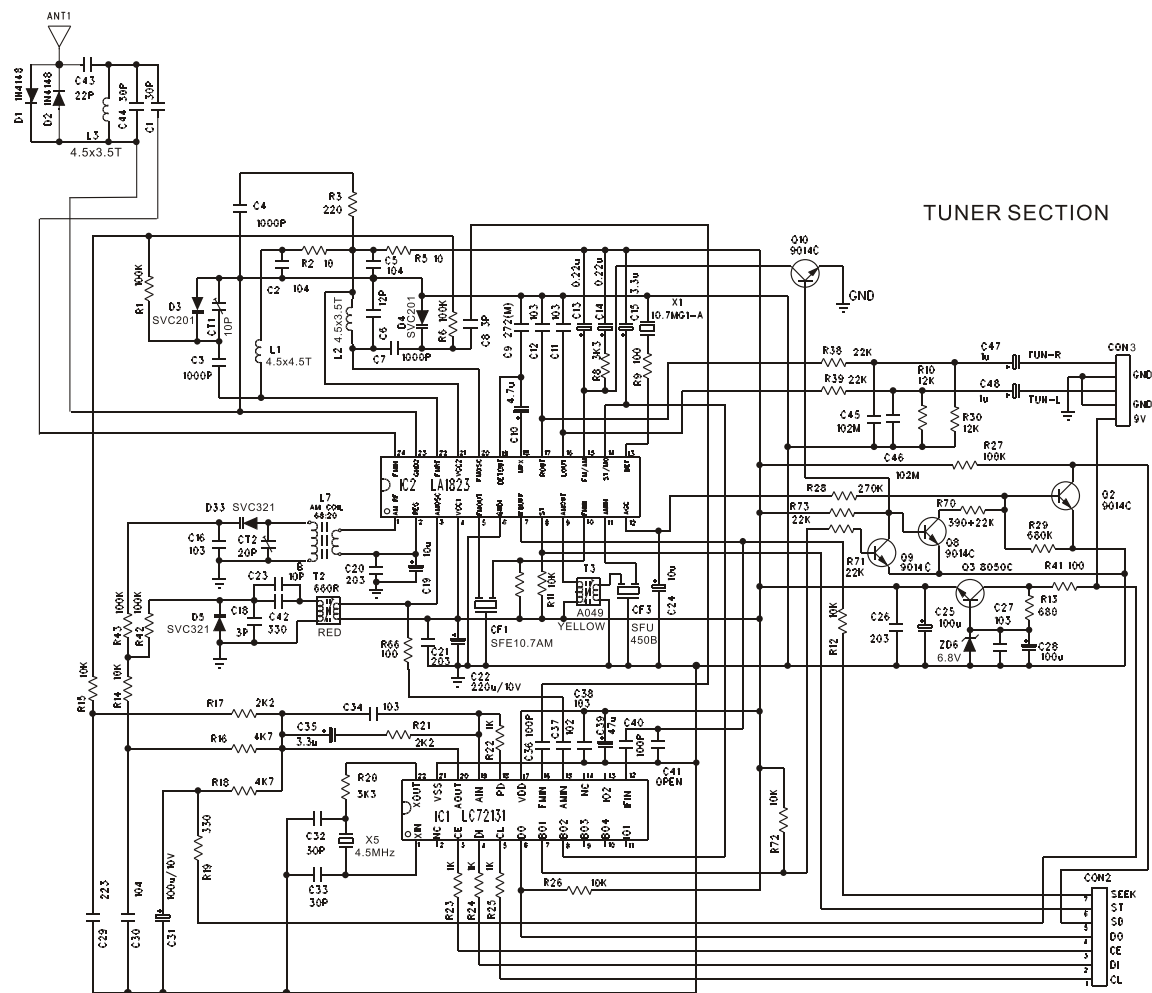
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	77-20EX0M300020	INSTRUCTION BOOK-E [US]	
	77-20EX0M300120	INSTRUCTION BOOK-E/F/S/I [E] [UK]	
	02-17EX0M300000	REMOTE CONTROL	

EX-M3/MC-D3

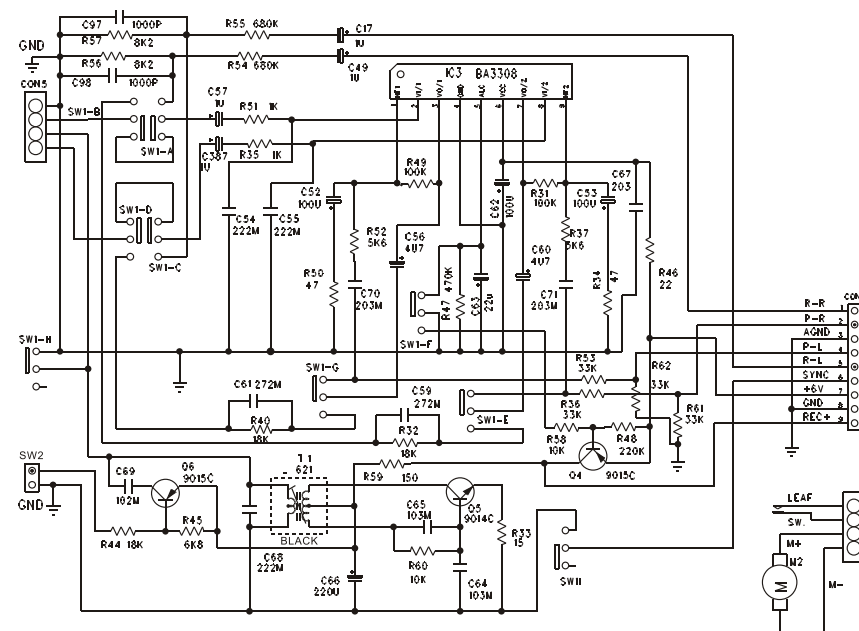
TEAC

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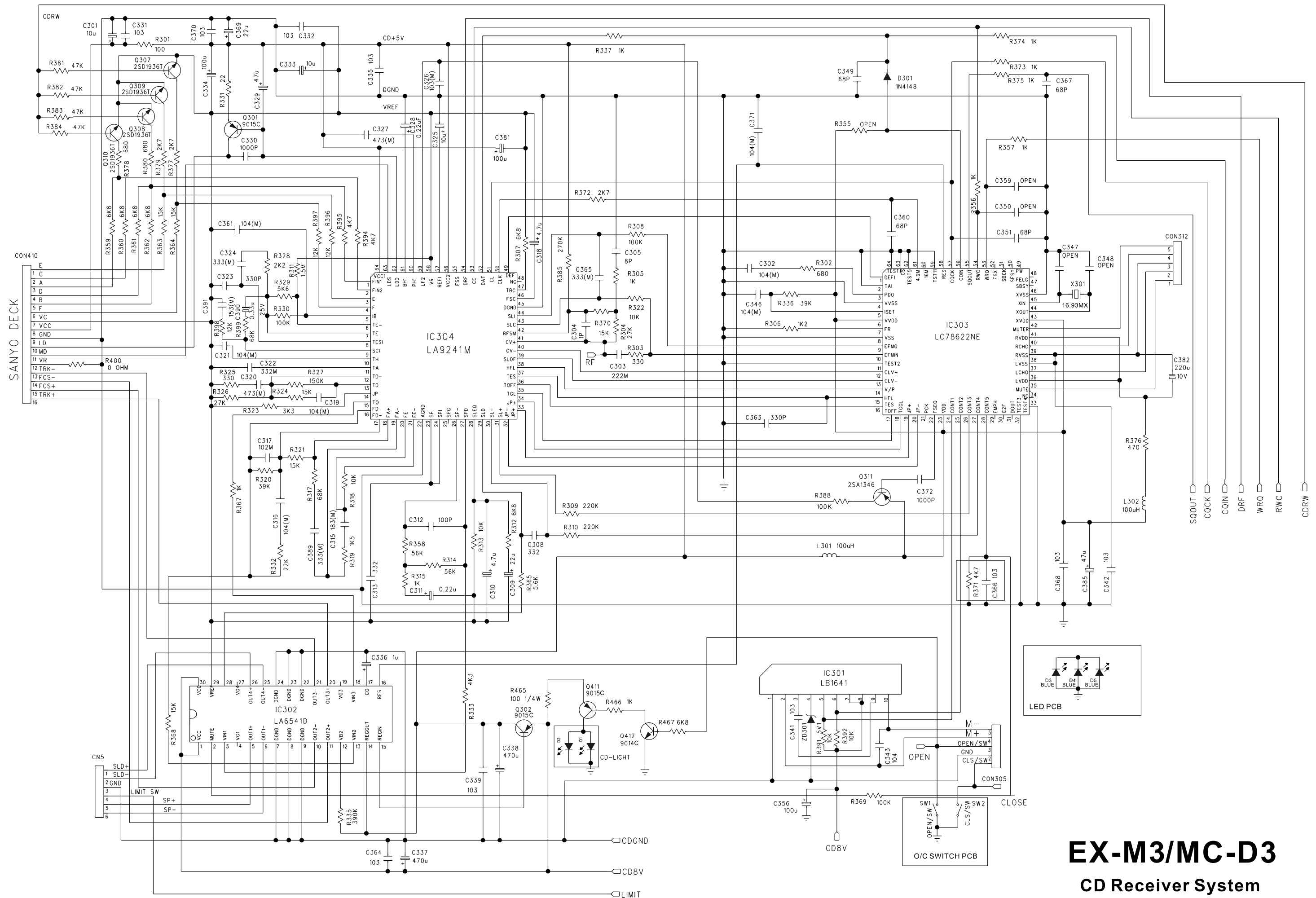
CASS. SECTION



EX-M3/MC-D3

CD Receiver System

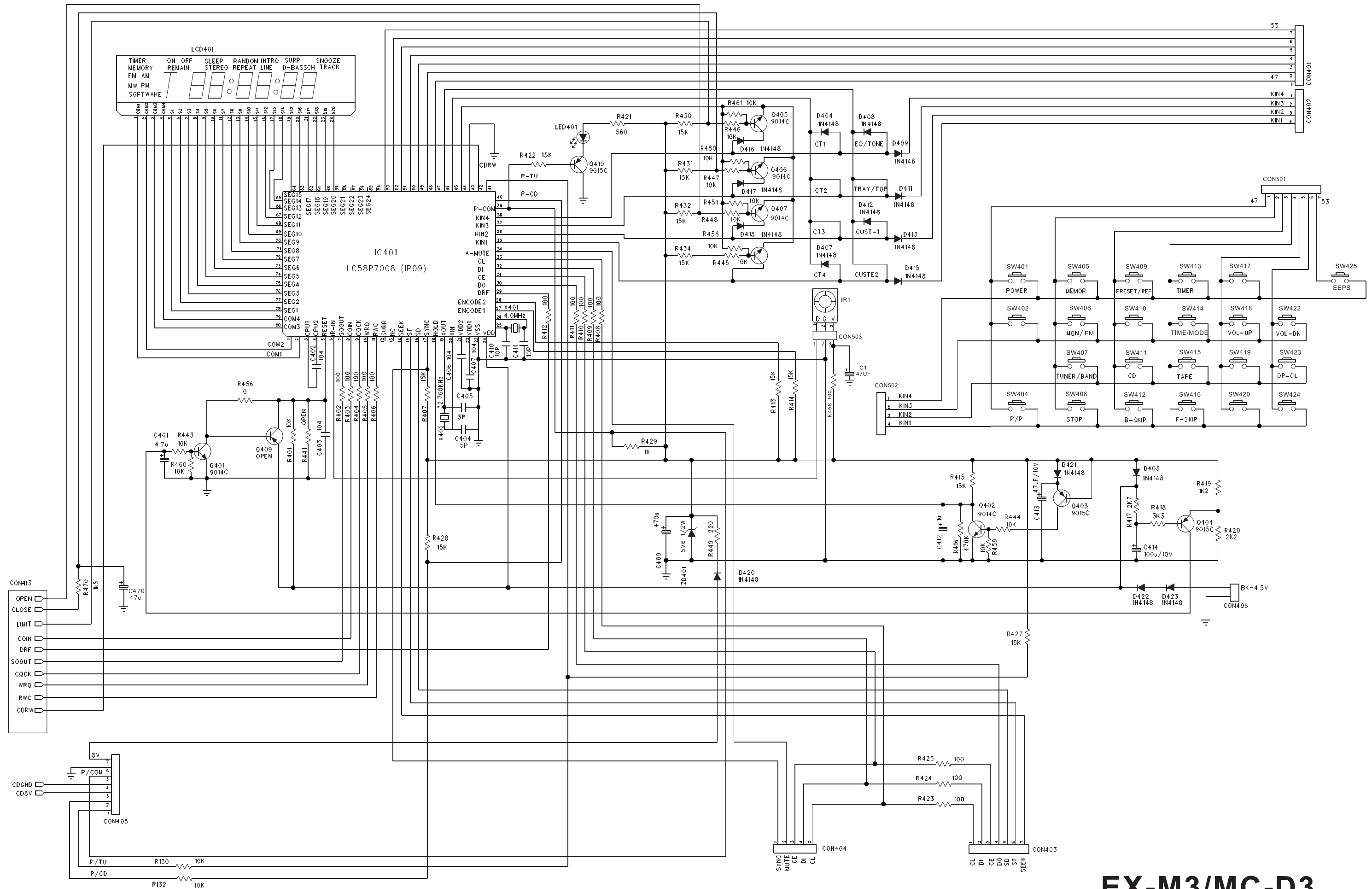
CD SECTION



EX-M3/MC-D3

CD Receiver System

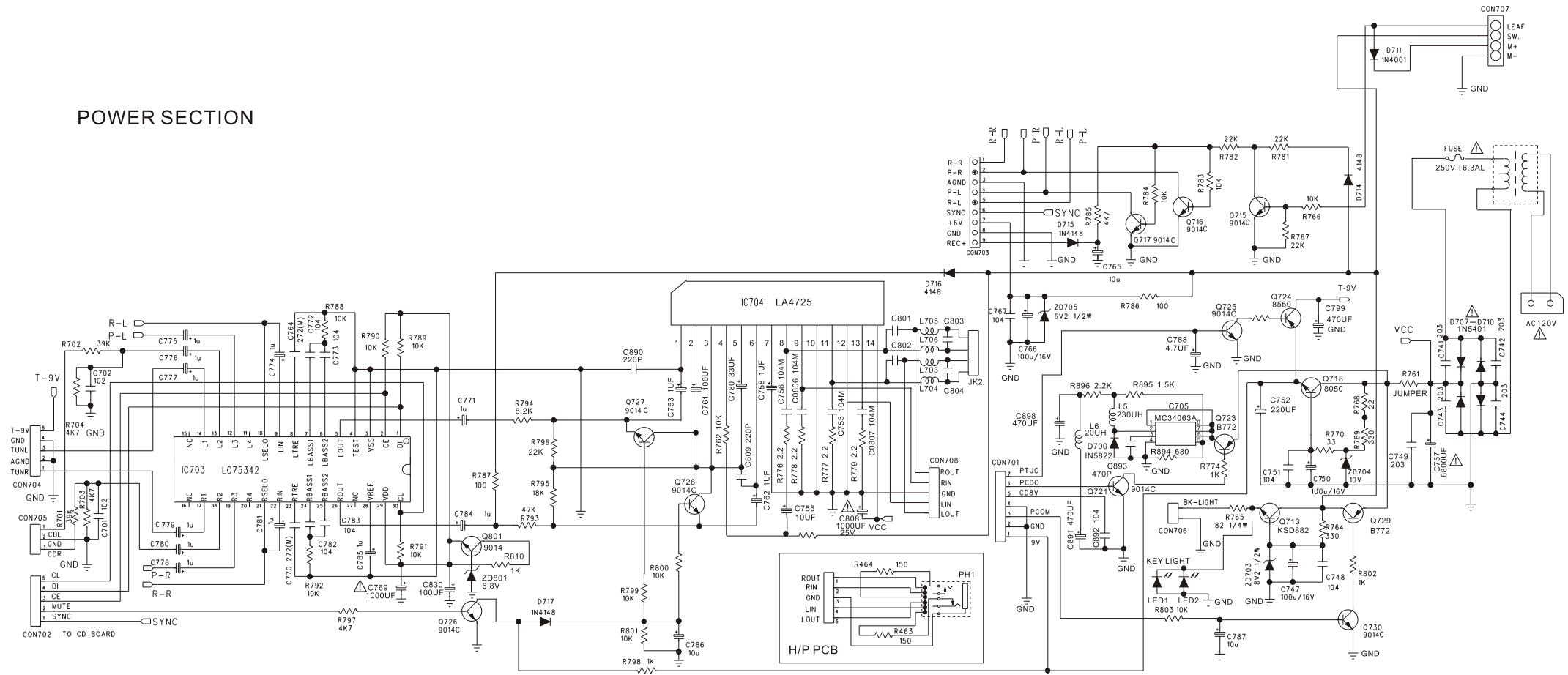
MCU SECTION



EX-M3/MC-D3

CD Receiver System

POWER SECTION



EX-M3/MC-D3
CD Receiver System